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(54) MICROPROCESSOR AND MULTI-TASK EXECUTION METHOD AND MULTI-THREAD EXECUTION METHOD USING THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a microprocessor capable of surely protecting both of a ciphered program and data handled by the program from unauthorized analysis under a multi-task environment.
SOLUTION: In the case of interrupting the execution of a certain program, a context information ciphering/deciphering unit 254 ciphers information for indicating the execution state until then of the program to be interrupted and the code ciphering key of the program by a public key intrinsic to this microprocessor 101 and writes them to a main memory 281 as context information. In the case of restarting the program, a code ciphering key/signature verification unit 257 deciphers the ciphered context information by the secret key of the microprocessor and verifies whether or not the code ciphering key of the deciphered context information coincides with the original code ciphering key of the interrupted program and the execution of the program is restarted only in the case that it coincides.

